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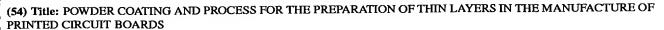
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(57) Abstract: The invention relates to a powder coating, an aqueous dispersion based on the powder coating, a process for its preparation and a process for the preparation of coating layers on substrates, inter alia for the preparation of multilayer structures. The process does not require the use of any organic solvents.

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	والمراجعة				
A. CLASSIF IPC 7	CO9D5/03 CO9D163/00				
According to	International Patent Classification (IPC) or to both national classific	ation and IPC	·		
B. FIELDS S	EARCHED	ion murhale)			
IPC 7	numentation searched (classification system followed by classification CO9D				
	on searched other than minimum documentation to the extent that		urched		
	ta base consulted during the International search (name of data baternal, PAJ, WPI Data	ase and, where practical, search terms used)			
C. DOCUME	NTS CONSIDERED TO BE RELEVANT				
Category °	Citation of document, with Indication, where appropriate, of the re-	elevant passages	Relevant to claim No.		
х	DE 199 33 095 A (HERBERTS GMBH 8 18 January 2001 (2001-01-18)	1-7,11, 13-16, 22-24, 26,27,37			
	claim 1; examples A,B				
х	US 3 860 557 A (MILLAR JOHN M E 14 January 1975 (1975-01-14)	1-7, 11-16, 22-24, 26,27,37			
	example 1 column 1, line 10 - line 15				
		-/			
X Furti	ner documents are listed in the continuation of box C.	X Patent family members are listed	in annex.		
"A" docume consider of filing of the charton other the charton oth	tegories of cited documents: ent defining the general state of the art which is not leared to be of particular relevance locument but published on or after the international late ent which may throw doubts on priority claim(s) or is cited to establish the publication date of another no or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filing date but han the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but citted to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "8" document member of the same patent family			
	actual completion of the international search 4 May 2005	Date of mailing of the International sea 0 3 06. 2005	Date of mailing of the international search report 0 3 06. 2005		
		Authorized officer			
Name and I	mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswljk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	O'Sullivan, T			

nternational Application No PCT/EP2004/003001

	Relevant to claim No.
Citation of document, with indication, where appropriate, of the following passages	
DE 196 18 657 A (BASF LACKE & FARBEN) 2 January 1997 (1997-01-02)	1-4, 13-15, 22-24, 26,27, 29-31
column 6, line 15 - line 45; claims 1-3	
EP 1 099 730 A (VANTICO AG) 16 May 2001 (2001-05-16)	1,2,5,7, 13-16, 22-24, 26,27,37
page 8, line 11 - line 14; example 5	
DATABASE WPI Section Ch, Week 198608 Derwent Publications Ltd., London, GB; Class A28, AN 1986-052912 XP002325125 & JP 61 007331 A (MITSUBISHI GAS CHEM COINC) 14 January 1986 (1986-01-14)	1-10, 13-15, 22-24
abstract US 5 290 882 A (SHIOBARA ET AL) 1 March 1994 (1994-03-01)	1-8,10, 11, 13-15, 22-28
tables 1,4 column 18, line 30 - line 40	
PATENT ABSTRACTS OF JAPAN vol. 015, no. 231 (C-0840), 12 June 1991 (1991-06-12) & JP 03 070729 A (MITSUBISHI PETROCHEM CO LTD), 26 March 1991 (1991-03-26) abstract	1-11, 13-15, 22-24
PATENT ABSTRACTS OF JAPAN vol. 016, no. 176 (C-0934), 27 April 1992 (1992-04-27) & JP 04 020518 A (NITTO DENKO CORP), 24 January 1992 (1992-01-24) abstract	1-11, 13-15, 22-24
PATENT ABSTRACTS OF JAPAN vol. 0070, no. 03 (C-143), 7 January 1983 (1983-01-07) & JP 57 162764 A (HITACHI KASEI KOGYO KK), 6 October 1982 (1982-10-06) abstract	1-8, 11-44
	Column 6, line 15 - line 45; claims 1-3 EP 1 099 730 A (VANTICO AG) 16 May 2001 (2001-05-16) page 8, line 11 - line 14; example 5 DATABASE WPI Section Ch, Week 198608 Derwent Publications Ltd., London, GB; Class A28, AN 1986-052912 XP002325125 & JP 61 007331 A (MITSUBISHI GAS CHEM CO INC) 14 January 1986 (1986-01-14) abstract US 5 290 882 A (SHIOBARA ET AL) 1 March 1994 (1994-03-01) tables 1,4 column 18, line 30 - line 40 PATENT ABSTRACTS OF JAPAN vol. 015, no. 231 (C-0840), 12 June 1991 (1991-06-12) & JP 03 070729 A (MITSUBISHI PETROCHEM CO LTD), 26 March 1991 (1991-03-26) abstract PATENT ABSTRACTS OF JAPAN vol. 016, no. 176 (C-0934), 27 April 1992 (1992-04-27) & JP 04 020518 A (NITTO DENKO CORP), 24 January 1992 (1992-01-24) abstract PATENT ABSTRACTS OF JAPAN vol. 0070, no. 03 (C-143), 7 January 1983 (1983-01-07) & JP 57 162764 A (HITACHI KASEI KOGYO KK), 6 October 1982 (1982-10-06)

ternational Application No
PCT/EP2004/003001

	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	Relevant to daim No.
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Maibashi in manu 140.
A	PATENT ABSTRACTS OF JAPAN vol. 0050, no. 08 (C-039), 20 January 1981 (1981-01-20) & JP 55 137168 A (HITACHI CHEM CO LTD), 25 October 1980 (1980-10-25) abstract	1-8, 11-44
A	25 October 1980 (1980-10-25) abstract EP 0 315 083 A (HOECHST AKTIENGESELLSCHAFT) 10 May 1989 (1989-05-10) claim 1; example 1	1-44

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8,11-44(all in part)

Powder coating compositions comprising polymeric i.e. epoxy binder, hardener and coating additives as essential components. Methods for preparing said powder coating and processes for coating substrates with said powder coating.

2. claims: 1(part),9,10,11-44(all in part)

Powder coating compositions comprising nitrogen-containing resin or pre-cursor thereof, hardener and coating additives as essential components. Methods for preparing said powder coating and processes for coating substrates with said powder coating.

Information on patent family members

International Application No
PCT/EP2004/003001

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
DE 19933095	Α	18-01-2001	DE	19933095	A1	18-01-2001
US 3860557	A	14-01-1975	BE CA CH DE ES FR GB IT NL	778183 974412 540067 2200747 398913 2122906 1346732 944499 7200187	A1 A1 A1 A5 A B	18-07-1972 16-09-1975 15-08-1973 26-10-1972 16-06-1975 01-09-1972 13-02-1974 20-04-1973 20-07-1972
DE 19618657	A	02-01-1997	DE AT AU BR CN DE WO EP ES JP US ZA	2220465 1184495 59608680 9637561 0826018	T B2 A A A1 A D1 A2 A2 T3 T A	02-01-1997 15-02-2002 04-05-2000 11-12-1996 05-01-1999 28-11-1996 10-06-1998 14-03-2002 28-11-1996 04-03-1998 16-09-2002 24-08-1999 12-12-2000 21-11-1996
EP 1099730	A	16-05-2001	ATU BR CA DE EP ES HU PT TR TR US	6970200 0005328 2325271 1296047 50003515 1099730	A A 1 A 1 A 2 A A A 1 A 2 T A B A 1	15-09-2003 17-05-2001 12-06-2001 10-05-2001 23-05-2001 09-10-2003 16-05-2001 01-05-2004 28-06-2001 24-07-2001 06-06-2003 21-05-2001 30-01-2004 23-07-2001 21-01-2003 07-08-2003 20-08-2002
JP 61007331	Α	14-01-1986	NONE			
US 5290882	A	01-03-1994	JP JP JP JP DE	2503814 5043658 2503815 5043659 4226696	A B2 A	05-06-1996 23-02-1993 05-06-1996 23-02-1993 18-02-1993
JP 03070729	A	26-03-1991	NONE			
JP 04020518	A	24-01-1992	NONE			

Information on patent family members

nternational Application No PCT/EP2004/003001

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
JP 57162764	Α	06-10-1982	NONE		
JP 55137168	A	25-10-1980	JP JP DE US	1223821 C 58053673 B 3010982 A1 4315845 A	15-08-1984 30-11-1983 25-09-1980 16-02-1982
EP 0315083	A	10-05-1989	DE AT DE EP JP KR US	3737495 A1 85633 T 3878398 D1 0315083 A2 1149871 A 9702600 B1 5073579 A	18-05-1989 15-02-1993 25-03-1993 10-05-1989 12-06-1989 06-03-1997 17-12-1991